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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/530,719	05/04/2000	TADASHI YAMAURA	2565-198P	3186

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EXAMINER
AZAD, ABUL K

ART UNIT	PAPER NUMBER
2654	19

DATE MAILED: 04/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/530,719	YAMAURA, TADASHI	
	Examiner	Art Unit	
	ABUL K. AZAD	2654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 November 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☒ The proposed drawing correction filed on *12 November 2002* is: a)☒ approved b)☐ disapproved by the Examiner

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *12,13,16* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Amendment

1. This action is in response to the communication filed on November 12, 2002. Claims 1-22 are pending in this action. Claims 16 and 18 have been amended. Claims 19-22 have been newly added.

2. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) The invention was described in –
> (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
> (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

4. Claims 1-5, 11, 13, 15 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Nishiguchi et al. (US 5,749,065).

As per claim 1, Nishiguchi teaches, "a speech coding method according to a code-excited linear prediction (CELP) speech coding method," comprising:

"evaluating a noise level of a speech in concerning coding period by using a code or coding result of at least one of spectrum information, power information, and pitch information" (Fig. 2, element 117 (voiced/unvoiced discrimination); col. 6, lines 15-61);

"selecting one of a plurality of excitation codebooks based on an evaluation result" (col. 13, lines 27-34, reads on "the vector quantization circuit 23 is connected by a switching circuit 24 to a codebook 25V for voiced sound and to a codebook 25U for unvoiced sound. The changeover switch 24 is controlled by the V/UV discrimination output . . .").

As per claim 2, Nishiguchi teaches, "the plurality of excitation codebook storing time series vectors with various noise level and switching the plurality of excitation codebooks based on the evaluation result of the noise level of the speech" (Fig. 3).

As per claim 3, Nishiguchi teaches, "changing a noise level of time series vectors output from the excitation codebooks based on the evaluation result of the noise level of the speech" (col. 13, lines 27-34, reads on "the vector quantization circuit 23 is connected by a switching circuit 24 to a codebook 25V for voiced sound and to a codebook 25U for unvoiced sound. The changeover switch 24 is controlled by the V/UV discrimination output . . .").

As per claim 4, Nishiguchi teaches, "an excitation codebook storing noise time series vector" (Fig. 3).

As per claim 5, Nishiguchi teaches, "a first excitation codebook storing a noise time series vector and a second codebook storing a non-noise time series vector and generating a time series vector by adding the time series vector in the first excitation codebook and the time series vector in the second excitation codebook by weighting based on the evaluation result of the noise level of the speech" (col. 13, line 28 to col. 14, line 36).

As per claim 11, 13, 15 and 17 they are interpreted and thus rejected for the same reasons set forth in the rejection of claims 1-5.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 6-10, 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of Kondo et al. (US 5,867,815).

As per claim 6, Admitted prior art teaches, "a speech decoder method according to a code-excited linear prediction (CELP) speech decoding method" (Fig. 7), comprising:

Admitted prior art does not teach, "evaluating a noise level of a speech in a concerning decoding period by using a code or decoding result of at least one of spectrum information, power information, and pitch information and selecting one of a plurality of excitation codebooks based on an evaluation result". Admitted prior art teaches to switch the plurality of excitation codebooks based on the pitch period or unvoiced speech detection (page 6, lines 4-12). However, Kondo teaches, "evaluating a noise level of a speech in a concerning decoding period by using a code or decoding result of at least one of spectrum information, power information (Fig. 4), and pitch information and selecting one of a plurality of excitation codebooks based on an evaluation result" (col. 5, lines 6-67, particularly reads on "with respect to the

noise/nonvoice band signal from the codebook decoder 63, a switch 66 is used in response to discrimination result provided by the noise/nonvoice band discriminator 61"). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use Kondo's teaching in the Admitted prior art (CELP decoding system) teaching so that an enhanced synthesized speech quality will be outputted from the decoder.

As per claim 7, Admitted prior art teaches, "the plurality of excitation codebooks storing time series vectors with various noise levels" (Fig. 7, elements 122, 123).

As per claim 8, Nishiguchi teaches, "changing a noise level of time series vectors output from the excitation codebooks based on the evaluation result of the noise of the speech" (col. 11, lines 23-60).

As per claim 9, Nishiguchi teaches, "an excitation codebook storing noise time series vectors" (col. 11, lines 48-60);

"generating a low noise time series vector by sampling signal samples in the time series vector based on the evaluation result of the noise level of the speech" (col. 11, lines 23-60).

As per claim 10, Admitted prior art teaches, "a first excitation codebook storing a noise time series vector and a second excitation codebook storing a non-noise time seris vector" (Fig. 7).

As per claims 7-10, Admitted prior art does not teach switching the codebooks based on the noise evaluation result. However, Kondo teaches switching the codebooks based on the noise evaluation results (col. 5, lines 6-67, particularly reads

on "with respect to the noise/nonvoice band signal from the codebook decoder 63, a switch 66 is used in response to discrimination result provided by the noise/nonvoice band discriminator 61"). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use Kondo's teaching in the Admitted prior art (CELP decoding system) so that an enhanced synthesized speech quality will be outputted from the decoder.

As per claims 12 and 14, they are interpreted and thus rejected for the same reasons set forth in the rejection of claims 6-10.

7. Claims 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo (US 5,867,815) further in view of Applicant's admitted prior art.

As per claim 19, Kondo teaches, "a speech decoding apparatus wherein the speech decoding apparatus receives a coded speech including a gain code and synthesizes a speech", the speech decoding apparatus comprising:

"a gain decoder for inputting the gain code and for decoding a gain of a speech in a concerning decoding period based on the gain code input" (col. 5, lines 21-40, claimed element "gain" reads on "level");

"a noise level evaluator for evaluating a noise level of the speech in concerning decoding period by using the gain decoded by the gain decoder" (col. 5, lines 21-40);

"a noise level controller for changing a noise level of time series vectors output from an excitation codebook based on an evaluation result of the noise level evaluator" (col. 5, line 6 to col. 6, line 10).

Kondo does not explicitly teach a CELP decoder. However, Applicant's admitted prior art teaches a CELP decoder (Fig. 7). Therefore it would have been obvious to one of ordinary sill in the art at the time of the invention to use a known CELP decoder so that a known type better quality synthesized speech will be produced.

As per claims 20-22, they are interpreted and thus rejected for the same reasons set forth in the rejection of claim 19.

8. Claims 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iijima et al. (US 5,828,996) in view of Kondo (US 5,867,815) and further in view of Applicant's admitted prior art.

As per claim 16 and 18, Iijima teaches, "a speech decoding method comprising":

Iijima teaches, "evaluating a noise level of speech in concerning decoding period by using a code or decoding result based on the coded linear predictive parameter" (Fig. 4, elements 235 and 234).

Iijima does not teach, "evaluating a noise level of a speech in a concerning decoding period by using a code or decoding result of at least one of spectrum information, power information, and pitch information and selecting one of a plurality of excitation codebooks based on an evaluation result". However, Kondo teaches, "evaluating a noise level of a speech in a concerning decoding period by using a code or decoding result of at least one of spectrum information, power information (Fig. 4), and pitch information and selecting one of a plurality of excitation codebooks based on an evaluation result" (col. 5, lines 6-67, particularly reads on "with respect to the noise/nonvoice band signal from the codebook decoder 63, a switch 66 is used in

response to discrimination result provided by the noise/nonvoice band discriminator 61"). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use Kondo's teaching in the Iijim's teaching so that an enhanced synthesized speech quality will be outputted from the decoder.

Iijima and Kondo do not explicitly teach a CELP decoder. However, Applicant's admitted prior art teaches a CELP decoder (Fig. 7). Therefore it would have been obvious to one of ordinary sill in the art at the time of the invention to use a known CELP decoder so that a known type better quality synthesized speech will be produced.

Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Abul K. Azad** whose telephone number is **(703) 305-3838.**

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Marsha D. Banks-Harold**, can be reached at **(703) 305-4379.**

Any response to this action should be mailed to:

Commissioner for Patents

Washington, D.C. 20231

Or faxed to:

(703) 872-9314

(For informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center's Customer Service Office whose telephone number is **(703) 306-0377.**

Abul K. Azad

April 17, 2003

Marsha D Banks-Harold

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